

REMARKS/ARGUMENTS

Claims 1-5, 7-13, and 15-16 are pending in this application. Claims 1-5, 7-13, and 15-16 have been rejected by the Examiner. Claims 1 and 9 have been amended herewith. The present amendments to the claims find support throughout the original specification as filed. For example, support for the proposition that “each of the six wires having a compound curve between each of the intersections of the first to the sixth wires, the compound curve comprising a first curve in one direction and a second curve in an opposite direction and that alternates relative to the first curve at the intersection of the wires,” may be found, *e.g.*, as shown in Figs. 7 and 12. Specifically, Fig. 7 shows wire 6 having a first curve above wires 5 and 7 at the intersection of wires 5, 6, and 7, and a second curve below wires 4 and 9 at the intersection of wires 4, 6, and 9 thereby alternating relative to the first curve. As such, no new matter has been added by this amendment. Accordingly, entry of the amendments is respectfully requested.

Objection to the Drawings

In the Office Action, the Examiner objected to Figures 1-5 asserting that these drawings should include the Label Prior Art, and Figures 1-3, 5, and 10-12 include multiple drawings that should be labeled individually. Applicants submit herewith replacements sheets labeled accordingly.

Claim Rejections under 35 U.S.C. § 112, first paragraph

Claims 1 and 9 are rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. The Examiner argues that the specification does not disclose that the wires of the structure need not be bonded. Applicants have amended claim 1 and 9 accordingly. Reconsideration and withdrawal of the rejection is respectfully requested.

Claim Rejections under 35 U.S.C. § 103(a) over Snelson in view of Barlow

Claims 1-6, 8, and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Snelson (6,739,937) in view of Barlow (4,271,628). Claims 7 and 9-15 are rejected under 35 U.S.C. §103(a) as being unpatentable over Snelson in view of Barlow and in further view of Constantinesco (2,677,955).

Claims 1 and 9 are directed to a wire-woven structure that includes six wires that each have a compound curve between each of the intersections of the first to the sixth wires. Each compound curve includes alternating first and second curves at each of the intersections of the wires. Therefore, as shown in Fig. 7, the tetrahedron has a side formed by wire 6 that has a first curve above wires 5 and 7 at the intersection of wires 5, 6, and 7, and a second curve below wires 4 and 9 at the intersection of wires 4, 6, and 9 thereby alternating and in an opposite direction relative to the first curve. The other sides of the tetrahedron formed by wires 4, 5, 7, and 9 have similar compound curves. The unit cells are repeated to form a three dimensional truss-type structure that does not require bonding to stabilize the structure. Applicants submit that the cited references fail to disclose or otherwise suggest this feature.

In contrast, the cited references only appear to depict wires that are mostly straight. For example, at Fig. 4, Snelson depicts tetrahedrons with mostly straight sides or with simple curves. As a result, Snelson requires connection at least at the outer most ends in order to stabilize the structure. See Paragraph [0036]. Snelson therefore does not disclose or otherwise suggest tetrahedrons with compound curves in each of the three sides as claimed.

Finally, as also noted in applicants' previous response, the cited references do not disclose that the lengths of the sides of the unit cell in the cellular structure of the presently claimed invention are of equal lengths. Because the lengths of the truss elements in the cited art are not equal, the cellular structure will not exhibit superior strength as is the case with claims 1 and 9. In response, the Examiner argues that the specification does not provide insight as to why this strength is gained. The Examiner is mistaken. At page 13, beginning at line 24, Applicants discuss that unequal length tetrahedron members result in the longer

members exhibiting excessive slenderness, which tends to result in premature buckling in the longer members in comparison to the shorter members. In contrast, equal lengths in the sides of the unit cell of the claimed cellular structure allows external loads to be distributed uniformly and more efficiently to each truss member. As such, equal length sides of the unit cell provide superior performance as opposed to the unequal length members in the cited art.

Accordingly, it is respectfully submitted that amended claims 1 and 9, and the claims depending therefrom, are patentable over the cited art for at least the reasons described above.

Summary

The Examiner is respectfully requested to reconsider and withdraw the rejections noted above and to pass the application through to an allowance.

THIS CORRESPONDENCE IS BEING
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RCF/AP:lf

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